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EXAMINER

MATTIS, JASON E

ART UNIT

PAPER NUMBER

2665

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/035,506

Applicant(s)

CARREL ET AL.

Examiner

Jason E. Mattis

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

1. Claims 2, 8-9, 13, 18, 24-25, and 35-36 are objected to because of the following informalities:

Claim 2 states, "...wherein the layer 2 multicast channel is an Ethernet MAC address and the layer 3 multicast channel is an IP address." Addresses may be used as an identifier for a channel, but addresses are not channels. It is recommended that the claim be amended to state, "...wherein the layer 2 multicast channel is **identified by** an Ethernet MAC address and the layer 3 multicast channel is **identified by** an IP address." Claims 8-9, 18, 24-25, and 35-36 all contain limitations similar to the limitations of claim 2 and should be amended accordingly.

The apparatus claim 13 claims "a forwarding engine coupled with the control engine", but there is no further discussion of the function of the forwarding engine in the claim. It appears there may be a typo on line 4 of claim 13 that states, "...the control engine to receive a". It is recommended that "the control engine" be changed to "the forwarding engine" such that the function of the forwarding engine is claimed.

Many of the claims contain acronyms. It is recommended that the first appearance of each acronym in the claims be defined so as to avoid confusion regarding the meaning of the acronyms.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Song et al. *IP Multicasting and Broadcasting for PPPoE Protocol*, Network Working Group, Internet Draft, August 2001 (as supplied by the Applicant's IDS filed on 10/22/01).

**With respect to claim 1**, Song et al. discloses a computer implemented method **(See sections 3.1-3.3 of Song et al. for reference to applicability scenarios in which the methods of Song et al. are implemented by computers)**. Song et al. also discloses determining a PPPoE client to be multicast capable **(See part D in section 2 of Song et al. for reference to a PPPoE client notifying a PPPoE server that it supports multicasting)**. Song et al. further discloses determining a layer 2 multicast channel from a layer 3 multicast channel **(See part B in section 2 of Song et al. for reference to using an IP address of a channel, which is a layer 3 address, to create an Ethernet multicast address of a channel, which is a layer 2 address)**. Song et al. also discloses transmitting multicast traffic for the layer 2 multicast channel as PPPoE multicast traffic in a PPPoE multicast session to the PPPoE client **(See part**

**B in section 2 of Song et al. for reference to transmitting a multicast data packet to a user as multicast traffic in a PPPoE multicast channel).**

**With respect to claim 7, Song et al. discloses a computer implemented method (See sections 3.1-3.3 of Song et al. for reference to applicability scenarios in which the methods of Song et al. are implemented by computers). Song et al. also discloses translating a layer 3 multicast channel to a layer 2 multicast channel (See part B in section 2 of Song et al. for reference to using an IP address of a channel, which is a layer 3 address, to create an Ethernet multicast address of a channel, which is a layer 2 address). Song et al. further discloses receiving a multicast packet, encapsulating the multicast packet with a PPPoE encapsulation, indicating the layer 2 multicast channel and a PPPoE multicast session identifier in the PPPoE encapsulation, and transmitting the encapsulated multicast packet (See part B in section 2 of Song et al. for reference to receiving a multicast IP packet that is to be sent, encapsulating the packet with a PPPoE encapsulation that identifies the frame as a multicast session using the ETHER\_TYPE field and indicates the specific multicast channel using an Ethernet multicast address, and for reference to sending, or transmitting, the encapsulated multicast packet).**

**With respect to claim 2, Song et al. discloses that the layer 2 multicast channel is identified by an Ethernet MAC address and the layer 3 multicast channel is identified by an IP address (See part B in section 2 of Song et al. for reference to the layer 2 and layer 3 addresses being an Ethernet address and an IP address respectively).**

**With respect to claim 3**, Song et al. discloses determining a client to be multicast capable comprises receiving a session request message including a tag indicating PPPoE multicast capability from the PPPoE client **(See parts C-D in section 2 of Song et al. for reference to PPPoE clients sending session requests using a JoinLocalGroup operation and for reference setting a TYPE field to 0x2 indicating that the client is multicast capable).**

**With respect to claim 4**, Song et al. discloses that the PPPoE multicast traffic identifies a PPPoE multicast session identifier and the layer 2 multicast channel **(See part B in section 2 of Song et al. for reference to the PPPoE multicast packets of the PPPoE multicast traffic indicating a multicast session using the ETHER\_TYPE field and indicating a specific layer 2 multicast channel using the Ethernet multicast address).**

**With respect to claim 5**, Song et al. discloses the PPPoE client listening for PPPoE multicast traffic on the layer 2 multicast channel **(See part B in section 2 of Song et al. for reference to a client accepting Ethernet multicast packets if the client has joined the group receiving the Ethernet multicast packets, meaning that the client must listen for the multicast traffic on the layer 2 multicast channel in order to receive the Ethernet multicast packets).**

**With respect to claim 6**, Song et al. discloses the PPPoE client decapsulating traffic from the PPPoE if the PPPoE client is listening on the layer 2 multicast channel **(See page B in section 2 of Song et al. for reference to clients accepting Ethernet multicast packets if they have joined the multicast group, meaning the client must**

**decapsulate the packets of the traffic in order to properly decode and use the packets).**

**With respect to claim 8, Song et al. discloses that the layer 2 multicast channel is identified by an Ethernet Media Access Control address (See part B in section 2 of Song et al. for reference to the layer 2 multicast channel being identified by an Ethernet multicast address).**

**With respect to claim 9, Song et al. discloses that the layer 3 multicast channel is identified by an Internet Protocol address (See part B in section 2 of Song et al. for reference to the layer 3 multicast channel being identified by an IP multicast packet's IP address).**

**With respect to claim 10, Song et al. discloses that the PPPoE multicast session identifier is a reserved PPPoE session identifier (See part B in section 2 of Song et al. for reference to setting the ETHER\_TYPE field of the frame to 0x8864, which is a reserved value indicating a multicast PPPoE session).**

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11-12 and 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. in view of Unitt et al. (U.S. Publication US 2004/0240466A1).

**With respect to claim 34**, Song et al. discloses a device performing operations including generating a layer 2 multicast channel from a layer 3 multicast channel **(See part B in section 2 of Song et al. for reference to using an IP address of a channel, which is a layer 3 address, to create an Ethernet multicast address of a channel, which is a layer 2 address)**. Song et al. also discloses receiving a multicast packet, encapsulating the multicast packet with a PPPoE encapsulation, indicating the layer 2 multicast channel and a PPPoE multicast session identifier in the PPPoE encapsulation, and transmitting the encapsulated multicast packet **(See part B in section 2 of Song et al. for reference to receiving a multicast IP packet that is to be sent, encapsulating the packet with a PPPoE encapsulation that identifies the frame as a multicast session using the ETHER\_TYPE field and indicates the specific multicast channel using an Ethernet multicast address, and for reference to sending, or transmitting, the encapsulated multicast packet)**. While Song et al. does disclose these operation being implemented in multiple scenarios by multiple devices **(See sections 3.1-3.3 of Song et al. for reference to an Ethernet switch, a CMTS, and a DSLAM implementing the operations)**, Song et al. does not specifically disclose using a machine-readable medium providing instructions executed by one or more processors.



**With respect to claim 34**, Unitt et al., in the field of communications, discloses using a machine-readable medium providing instructions executed by one or more processors **(See page 3 paragraph 43 and Figure 1 of Unitt et al. for reference to using router that includes a process executing instructions to provide multicast Ethernet data)**. Using a machine-readable medium providing instructions executed by one or more processors has the advantage of allowing the device to be flexible since the operation of the device may be changed by changing the software of the instructions without requiring the hardware to be replaced.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Unitt et al., to combine using a machine-readable medium providing instructions executed by one or more processors, as suggested by Unitt et al., with the system and method of Song et al., with the motivation being to allow the device to be flexible since the operation of the device may be changed by changing the software of the instructions without requiring the hardware to be replaced.

**With respect to claim 35**, Song et al. discloses that the layer 2 multicast channel is identified by an Ethernet Media Access Control address **(See part B in section 2 of Song et al. for reference to the layer 2 multicast channel being identified by an Ethernet multicast address)**.

**With respect to claim 36**, Song et al. discloses that the layer 3 multicast channel is identified by an Internet Protocol address **(See part B in section 2 of Song**

**et al. for reference to the layer 3 multicast channel being identified by an IP multicast packet's IP address).**

**With respect to claim 37**, Song et al. discloses that the PPPoE multicast session identifier is a reserved PPPoE session identifier **(See part B in section 2 of Song et al. for reference to setting the ETHER\_TYPE field of the frame to 0x8864, which is a reserved value indicating a multicast PPPoE session).**

**With respect to claims 11-12**, Song et al. does not specifically disclose that the multicast packets are video packets and collaboration application packets.

**With respect to claims 11-12**, Unitt et al., in the field of communications, discloses multicast Ethernet packets that are video packets and collaboration application packets **(See page 3 paragraph 44 and page 5 paragraph 98 of Unitt et al. for reference to streaming video packets and for reference to streaming other types of multicast services including applications)**. Multicasting Ethernet packets that are video packets and collaboration application packets has the advantage of allowing multiple users to view the same video or work on the same application at the same time in real time.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Unitt et al., to combine multicasting Ethernet packets that are video packets and collaboration application packets, as suggested by Unitt et al., with the system and method of Song et al., with the motivation being to allow multiple users to view the same video or work on the same application at the same time in real time.

6. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. in view of Unitt et al. and further in view of the Applicant's admitted prior art.

**With respect to claim 13**, Song et al. discloses a network element (**See sections 3.1-3.3 of Song et al. for reference to an Ethernet switch, a CMTS, and a DSLAM, which are different types of network elements**). Song et al. also discloses translating a layer 3 multicast channel to a layer 2 multicast channel (**See part B in section 2 of Song et al. for reference to using an IP address of a channel, which is a layer 3 address, to create an Ethernet multicast address of a channel, which is a layer 2 address**). Song et al. further discloses encapsulating the multicast packet with a PPPoE encapsulation, indicating the layer 2 multicast channel and a PPPoE multicast session identifier in the PPPoE encapsulation, and transmitting the encapsulated multicast packet (**See part B in section 2 of Song et al. for reference to receiving a multicast IP packet that is to be sent, encapsulating the packet with a PPPoE encapsulation that identifies the frame as a multicast session using the ETHER\_TYPE field and indicates the specific multicast channel using an Ethernet multicast address, and for reference to sending, or transmitting, the encapsulated multicast packet**). Song et al. does not specifically disclose using a control engine and a forwarding engine. Song et al. also does not specifically disclose using a delivery protocol.

**With respect to claims 14-15**, Song et al. does not disclose that the control engine and the forwarding engine comprise one or more processors and a memory.

**With respect to claim 13-15**, Unitt et al., in the field of communications, discloses using a control engine and a forwarding engine comprising one or more processors and a memory (**See page 3 paragraph 43 and Figure 1 of Unitt et al. for reference to a routing forwarding multicast Ethernet packets with the routing including a packet forwarder 111, which is a forwarding engine, and a signal processor 112, which is a control engine with these devices comprising a processor and a memory from which the processor executes instructions**). Using a control engine and a forwarding engine has the advantage of separating the functions of transmitting multicast Ethernet packets such that the operation of either the control engine or the forwarding engine may be changed independently of each other.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Unitt et al., to combine using a control engine and a forwarding engine, as suggested by Unitt et al., with the system and method of Song et al., with the motivation being to separate the functions of transmitting multicast Ethernet packets such that the operation of either the control engine or the forwarding engine may be changed independently of each other.

**With respect to claim 16**, the combination of Song et al. and Unitt et al. does not disclose that the delivery protocol is the ATM protocol.

**With respect to claims 13 and 16**, the Applicant's admitted prior art discloses using a delivery protocol that is the ATM protocol (**See page 4 paragraph 9 of the Applicant's Background of the invention section for reference to using a delivery protocol, that may be the ATM protocol**). Using ATM as a delivery protocol has the

advantage of allowing the protocol of the core network to be different than the protocol of the edge networks such that traffic may be more quickly and efficiently routed through the core network.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the Applicant's admitted prior art, to combine using ATM as a delivery protocol, as suggested by the Applicant's admitted prior art, with the system and method of Song et al. and Unitt et al., with the motivation being to allow the protocol of the core network to be different than the protocol of the edge networks such that traffic may be more quickly and efficiently routed through the core network.

7. Claims 17-18 and 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. in view of O'Dell et al. (U.S. Pat. 6891825).

**With respect to claim 17, Song et al. discloses an apparatus (See sections 3.1.3-3 of Song et al. for reference to the PCs, which are apparatuses of the different embodiments). Song et al. also discloses listening for multicast traffic on a layer 2 multicast channel (See part B in section 2 of Song et al. for reference to a client accepting Ethernet multicast packets if the client has joined the group receiving the Ethernet multicast packets, meaning that the client must listen for the multicast traffic on the layer 2 multicast channel in order to receive the Ethernet multicast packets). Song et al. further discloses indicating the layer 2 multicast channel (See parts B-D in section 2 of Song et al. for reference to indicating the layer 2 multicast channel by the Ethernet multicast address that**

**identifies the channel).** Song et al. also discloses receiving PPPoE multicast traffic, decapsulating the traffic from PPPoE and processing the traffic **(See part B in section 2 of Song et al. for reference to a client receiving an Ethernet multicast packet and accepting the packet meaning the client device must decapsulate the packet and process the packet to use the packet).** Song et al. does not specifically disclose that the apparatus includes a network interface card and a PPPoE module.

**With respect to claim 28,** Song et al. discloses performing operations including requesting a PPPoE session **(See part C in section 2 of Song et al. for reference to requesting a multicast PPPoE session by using a JoinLocalGroup operation).** Song et al. also discloses transmitting an indication of PPPoE multicast capability **(See part D in section 2 of Song et al. for reference to indicating a PPPoE multicast capability using a TYPE field).** Song et al. further discloses generating a layer 2 multicast channel from a layer 3 multicast channel **(See part B in section 2 of Song et al. for reference to using an IP address of a channel, which is a layer 3 address, to create an Ethernet multicast address of a channel, which is a layer 2 address).** Song et al. also discloses receiving a packet of the multicast having a PPPoE encapsulation, determining if the PPPoE encapsulation indicates the layer 2 channel, decapsulating the packet if it does indicate the channel, and discarding the packet if it does not **(See part B in section 2 of Song et al. for reference to a PPPoE node accepting an Ethernet multicast packet if it has joined the multicast group and not accepting the packet if it has not, meaning that the packet is decapsulated and processed if it belongs to a joined multicast session and discarded if it does not).**

Song et al. does not specifically disclose using a machine-readable medium with instructions executed by one or more processors.

**With respect to claims 17 and 28**, O'Dell et al., in the field of communications, discloses an apparatus including a network interface card and a PPPoE module (**See column 5 lines 34-53 and column 6 lines 9-20 of O'Dell et al. for reference to using an Ethernet Network Interface Card and a PPPoE client software loaded on a processor**). Using a network interface card and a PPPoE module has the advantage of allowing standard network interface cards to be used in the PPPoE multicasting system while providing the PPPoE multicasting functionality in separate software included in the PPPoE module.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of O'Dell et al., to combine using a network interface card and a PPPoE module, as suggested by O'Dell et al., with the system and method of Song et al., with the motivation being to allow standard network interface cards to be used in the PPPoE multicasting system while providing the PPPoE multicasting functionality in separate software included in the PPPoE module.

**With respect to claim 18**, Song et al. discloses that the layer 2 multicast channel is identified by an Ethernet Media Access Control address (**See part B in section 2 of Song et al. for reference to the layer 2 multicast channel being identified by an Ethernet multicast address**).

**With respect to claims 29-30**, Song et al. discloses transmitting a PADR message including a multicast capability tag to an access concentrator (**See parts B**

**and D of Song et al. for reference to transmitting a PADR message including a TYPE field that contains a flag regarding the multicast capability of a client).**

**With respect to claim 31, Song et al. discloses that the PPPoE multicast session identifier is a reserved PPPoE session identifier (See part B in section 2 of Song et al. for reference to setting the ETHER\_TYPE field of the frame to 0x8864, which is a reserved value indicating a multicast PPPoE session).**

8. Claims 21 and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. in view of Applicant's admitted prior art.

**With respect to claim 21, Song et al. discloses a system (See sections 3.1-3.3 of Song et al. for reference to three system embodiments). Song et al. also discloses a network element (See sections 3.1-3.3 of Song et al. for reference to an Ethernet switch, a CMTS, and a DSLAM, which are different types of network elements). Song et al. further discloses translating a layer 3 multicast channel to a layer 2 multicast channel (See part B in section 2 of Song et al. for reference to using an IP address of a channel, which is a layer 3 address, to create an Ethernet multicast address of a channel, which is a layer 2 address). Song et al. also discloses encapsulating the multicast packet with a PPPoE encapsulation, indicating the layer 2 multicast channel and a PPPoE multicast session identifier in the PPPoE encapsulation, and transmitting the encapsulated multicast packet (See part B in section 2 of Song et al. for reference to receiving a multicast IP packet that is to be sent, encapsulating the packet with a PPPoE encapsulation that identifies the**



**frame as a multicast session using the ETHER\_TYPE field and indicates the specific multicast channel using an Ethernet multicast address, and for reference to sending, or transmitting, the encapsulated multicast packet).** Song et al. further discloses customer premise equipment **(See sections 3.1-3.3 of Song et al. for reference to an Ethernet switch, a cable modem, and a xDSL modem, which are CPE).** Song et al. also discloses transmitting the traffic from the CPE **(See sections 3.1-3.3 for reference to sending data packets from an Ethernet switch, a cable modem, or a xDSL modem to a PC).** Song et al. further discloses a host coupled to the CPE **(See sections 3.1.3-3 of Song et al. for reference to the PCs, which are hosts of the different embodiments).** Song et al. also discloses receiving the multicast traffic, determining if the host is listening to the channel indicated in the traffic and decapsulating the traffic if the host is listening **(See part B of section 2 of Song et al. for reference to a client receiving data for a Ethernet multicast channel, determining if the client has joined the multicast group identified by the data and accepting and decapsulating the data if the host has joined the group).** Song et al. does not specifically disclose using a delivery protocol.

**With respect to claim 27,** Song et al. discloses a bridge coupled with the network element to receiving the traffic and transmit the traffic to the CPE **(See sections 3.1-3.3 for reference to sending data packets from an Ethernet switch, a cable modem, or a xDSL modem, which can be used as a bridge, to a PC).**

**With respect to claims 21,** the Applicant's admitted prior art discloses using a delivery protocol that is the ATM protocol **(See page 4 paragraph 9 of the Applicant's**

**Background of the invention section for reference to using a delivery protocol, that may be the ATM protocol).** Using ATM as a delivery protocol has the advantage of allowing the protocol of the core network to be different than the protocol of the edge networks such that traffic may be more quickly and efficiently routed through the core network.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the Applicant's admitted prior art, to combine using ATM as a delivery protocol, as suggested by the Applicant's admitted prior art, with the system and method of Song et al., with the motivation being to allow the protocol of the core network to be different than the protocol of the edge networks such that traffic may be more quickly and efficiently routed through the core network.

**With respect to claim 24,** Song et al. discloses that the layer 2 multicast channel is identified by an Ethernet Media Access Control address **(See part B in section 2 of Song et al. for reference to the layer 2 multicast channel being identified by an Ethernet multicast address).**

**With respect to claim 25,** Song et al. discloses that the layer 3 multicast channel is identified by an Internet Protocol address **(See part B in section 2 of Song et al. for reference to the layer 3 multicast channel being identified by an IP multicast packet's IP address).**

**With respect to claim 26,** Song et al. discloses that the PPPoE multicast session identifier is a reserved PPPoE session identifier **(See part B in section 2 of**

**Song et al. for reference to setting the ETHER\_TYPE field of the frame to 0x8864, which is a reserved value indicating a multicast PPPoE session).**

9. Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. in view of Applicant's admitted prior art as applied to claims 21 and 24-27 above, and further in view of Unitt et al.

**With respect to claims 22-23**, the combination of Song et al. and the Applicant's admitted prior art does not specifically disclose that the multicast packets are video packets and collaboration application packets.

**With respect to claims 22-23**, Unitt et al., in the field of communications, discloses multicast Ethernet packets that are video packets and collaboration application packets (See page 3 paragraph 44 and page 5 paragraph 98 of Unitt et al. for reference to streaming video packets and for reference to streaming other types of multicast services including applications). Multicasting Ethernet packets that are video packets and collaboration application packets has the advantage of allowing multiple users to view the same video or work on the same application at the same time in real time.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Unitt et al., to combine multicasting Ethernet packets that are video packets and collaboration application packets, as suggested by Unitt et al., with the system and method of Song et al. and the Applicant's admitted prior

art, with the motivation being to allow multiple users to view the same video or work on the same application at the same time in real time.

10. Claims 19-20 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al. in view of O'Dell et al. as applied to claims 17-18 and 28-31 above, and further in view of Unitt et al.

**With respect to claims 19-20 and 32-33**, the combination of Song et al. and O'Dell et al. does not specifically disclose the multicast packets are video packets, collaboration application packets, audio packets, and ticker data packets.

**With respect to claims 19-20 and 32-33**, Unitt et al., in the field of communications, discloses multicast Ethernet packets that are video packets, collaboration application packets, audio packets, and ticker data packets **(See page 3 paragraph 44 and page 5 paragraph 98 of Unitt et al. for reference to streaming video packets and for reference to streaming other types of multicast services including applications, audio, and other types of streaming data)**. Multicasting Ethernet packets that are video packets, collaboration application packets, audio packets, and ticker data packets has the advantage of allowing multiple users to view the same data or work on the same application at the same time in real time.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Unitt et al., to combine multicasting Ethernet packets that are video packets, collaboration application packets, audio packets, and ticker data packets, as suggested by Unitt et al., with the system and method of Song et

al. and O'Dell et al., with the motivation being to allow multiple users to view the same data or work on the same application at the same time in real time.

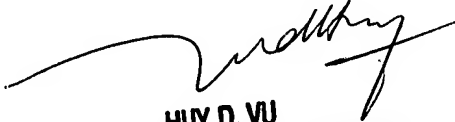
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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